



American College
of Veterinary Nutrition

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FREQUENTLY ASKED QUESTIONS

Not finding what you're looking for? Try the [nutrition resources](#) page or check back later – this page is updated frequently.

FAQs are for educational purposes only. If you are a pet owner, please consult with your veterinarian to determine the best diet for your pet.

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What is a Board Certified Veterinary Nutritionist®?

A board certified veterinary nutritionist® is a Diplomate of the American College of Veterinary Nutrition (ACVN®). The ACVN® is the [AVMA-recognized specialty organization](#) for nutrition. They are veterinarians who are board-certified specialists in veterinary nutrition. Training involves intensive clinical, teaching, and research activities spanning at least two years. Trainees also are required to pass a written examination in order to obtain board certification. To become board certified peer-reviewed research must be published, highly precise case reports submitted and accepted, and an intense two day, three part written examination must be passed.

A board certified veterinary nutritionist® is a specialist that is uniquely trained in the nutritional management of both healthy animals and those with one or more diseases. Nutrition is critically important to maintain optimal health and ensure optimal performance, as well as to manage the symptoms and progression of specific diseases. A board certified veterinary nutritionist® is uniquely qualified to formulate commercial foods and supplements, formulate home-prepared diets, manage the complex medical and nutritional needs of individual animals, and understand the underlying causes and implications of specific nutritional strategies that are used to prevent and treat diseases.

A board certified veterinary nutritionist® may be involved in a variety of different activities, including conducting research, taking care of patients, consulting with veterinarians, owners, or industry, and teaching. They work in a variety of different environments, including veterinary schools, pet food or drug companies, government

agencies, or private veterinary hospitals. Some run their own businesses.

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What are the qualifications and requirements for becoming board certified in veterinary nutrition?

The residency training program in veterinary nutrition is extensive. After achieving a degree in veterinary medicine and completing at least 1 year of internship or clinical experience, residency training includes at least 2 years of study, with a focus on both basic and clinical nutrition as well as research and teaching. Trainees study under the mentorship of at least one board certified veterinary nutritionist® and often with contact with many others over the course of the program. Some programs also require graduate-level coursework and rotation with other specialists (such as Internal Medicine, Critical Care, and Clinical Pathology). Trainees must prepare and write up three case reports to qualify to take the board exam. The two day written examination is offered annually and covers a wide range of nutritional and medical knowledge.

For more detailed information regarding residency programs for veterinarians interested in training for board certification, please see our page at:

<http://acvn.org/veterinarians/residency-information/>

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How do I contact and consult with a board certified veterinary nutritionist®?

If you would like to work with a board certified veterinary nutritionist® to develop a customized home cooked diet for your pet, produce and market a pet product, or consult on any other issue, please visit our

[Diplomate Directory](#).

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What is the purpose of nutrition consultation?

A nutrition consultation is performed to help pet owners determine the best feeding options for their animal(s). A primary care veterinarian may also contact a board certified veterinary nutritionist® on the behalf of their client and patient for the same purpose.

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What does the board certified veterinary nutritionist® do during the consultation?

The veterinary nutritionist will review the patient's records and the goals for the consultation. After the records have been reviewed the consultation can be performed. Most veterinary nutritionists prefer to examine the patient to determine a body condition score and muscle condition score, if appropriate. Some will perform consultations over the phone or via e-mail correspondence. The patient's medical conditions, if present, will be discussed as well as the dietary goals for those conditions. A diet plan will then be made by the veterinary nutritionist which takes those goals into consideration. This plan will likely be provided in a written format for the primary care veterinarian and owner.

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How can I find a board certified veterinary nutritionist®?

Many primary care veterinarians will have a working relationship with a veterinary nutritionist and will be able to refer you to one. If that is not the case you can go to the [Diplomate Directory](#) to see a

searchable list of board certified veterinary nutritionists, where they are located and the type of consultations they provide.

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Is there a charge for a veterinary nutrition consultation?

There is typically a charge for a consultation. There is considerable time spent on a case while the board certified veterinary nutritionist® reviews the patient's health records and makes a determination for the nutritional goals for that case. In addition, there is time and expertise needed for any physical exam and nutritional assessment that is performed. When the record review and/or examination are finished, further time is spent finalizing feeding recommendations and recording them for the owner. If a homemade diet is being formulated for a patient this may take up to a couple of hours to formulate and write up the plan. Each board certified veterinary nutritionist® has established fee schedules which they will communicate to you and your veterinarian.

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How do I initiate a nutrition consult with a board certified veterinary nutritionist®?

Once you determine which veterinary nutritionist you would like to work with, contact them and your primary care veterinarian. You will be asked to have your veterinarian provide recent records including any lab work results. Typically there is also a nutrition consultation form the board certified veterinary nutritionist® will provide for the owner and primary care veterinarian to complete and submit, which will ask for detailed information about diet as well as activity level and performance goals.

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How do I find a board certified veterinary nutritionist® to interview or speak at my event?

Please consult our [Diplomate Directory](#) or contact our administrative assistant via our [Contact Page](#)

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Is there a nutrition certification for veterinary technicians and assistants?

The ACVN does not offer certification for technicians or assistants. However, there are organizations with a veterinary nutrition focus open to technicians and assistants: [American Academy of Veterinary Nutrition](http://aavn.org/) (<http://aavn.org/>) and [Academy of Veterinary Nutrition Technicians](http://nutritiontechs.org/) (<http://nutritiontechs.org/>). There are also training programs managed by private pet food companies.

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How do I choose the best food for my pet?

Your pet is an individual, and it is very likely that many food choices are available. Your veterinarian is the best source of information regarding the appropriate diet for your specific pet. Many factors are involved in choosing a food, including economics, availability, any health issues that may need to be addressed with diet, your pet's preference, and your personal philosophies. For more information, see the following article:

[Nutritional Assessment Guidelines for Dogs and Cats](#)

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How do I know how much to feed my pet?

While there are ways to calculate the assumed requirements of an average dog or cat, the exact calorie needs of any individual pet depend on genetics, environment, activity level, and life stage. It is important to keep in mind that foods vary widely in energy density, with different kibbles ranging from below 300 to more than 700 Calories per cup! The calorie content of the specific food you are using should be determined in order to avoid over- or underfeeding. In some cases, this information will be on the label of the pet food. If not, you can call the company for this information or find it on their website. The prevention of obesity is very important for maximizing the health and lifespan of your pet. You should regularly evaluate your pet to ensure a proper body condition. Your veterinarian can help you determine the proper weight for your individual pet. However, for ensuring that your pet is in optimal body condition, you should easily be able to feel the ribs, and your pet should have an hourglass shape when viewed from above. There are body condition score charts in the following article:

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[Nutritional Assessment Guidelines for Dogs and Cats](#)

Are raw pet foods better than canned or kibble foods?

Raw diets, both home-prepared and commercial, have become more popular. Advocates of raw diets claim benefits ranging from improved longevity to superior oral or general health and even disease resolution (especially gastrointestinal disease). Often the benefits of providing natural enzymes and other substances that may be altered or destroyed by cooking are also cited. However, proof for these purported benefits is currently restricted to testimonials, and no published peer-reviewed studies exist to support claims made by raw diet advocates. No studies have examined differences in animals fed raw animal products to those fed any other type of diet (kibble, canned, or home cooked) with the exception of looking at the effects on digestibility. Typically raw meats (but not other uncooked foods

like grains or starches) are slightly more digestible than cooked meat. There are risks and concerns associated with the feeding of raw diets. One of these is the risk of nutritional imbalances, which is a reality for both home-prepared and commercial raw meat diets. Another important risk is related to bacterial or parasitic contamination. Of course, food poisoning is also a major concern for people, and the public health aspects of feeding raw foods to pets cannot be overlooked. Safe and proper handling of raw foods is crucial for reducing the risk, but safety cannot be guaranteed. At this time, the vast majority of purported benefits of feeding raw foods remain unproven, while the risks and consequences have been documented. It is best to discuss the choice of feeding raw foods with your veterinarian so that an informed decision can be made with regard to your pet's diet.

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Are commercially available pet foods safe and healthful?

Commercially available pet foods have been used successfully for years. There are many kinds of foods available, from canned to dry. Some are complete and balanced and others are meant for supplemental or intermittent feeding. Safety problems (with regard to both nutritional adequacy and toxin/microbiological contamination) are occasionally documented in both commercial foods as well as home-prepared human foods. Most manufacturers utilize sophisticated mechanisms for quality control and food safety, including screening and reporting systems. As such, commercial foods remain a consistent, safe, and healthful option for feeding pets.

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Which supplements should I add to my pets' food?

If your pet is eating a complete and balanced commercially available pet food, supplements are not recommended unless specifically

prescribed by your veterinarian. This reduces the chances of excesses and adverse nutrient or medication interactions. Talk to your veterinarian if you are interested in using a particular supplement for your pet, and keep your veterinarian informed if you are giving your pet any supplement. This is important information for him or her in order to be able to optimally care for your pet.

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Is preparing my pets food at home better than buying commercial foods?

Some owners with pets that have particular health problems may wish to participate in the management of their pet's condition by providing a home cooked diet, even if a commercially available diet would be appropriate. These owners may have a belief that a home cooked diet is safer, more natural, or more healthful than a commercially available diet. They may wish to avoid certain ingredients (such as grains, chemical preservatives, or by-products) or to include certain ingredients (such as specific protein or fat sources). Other owners wish to feed their pets according to their own philosophical views, and choose home prepared diets that are vegetarian, organic, or raw.

Another common reason owners feed a home cooked diet is when a pet refuses commercially available diets. In some pets, this is a learned behavior while in others it may be the result of a food aversion secondary to a disease condition (such as kidney failure). Finally, pets may have a particular combination of diseases for which no suitable commercial diet exists. In these cases, a home prepared diet can be an appropriate solution.

In general, home prepared diets are more expensive than commercially available diets. Of course, they are also more time consuming to prepare. There are many recipes for home prepared pet

diets available on the Internet and in books; however, the vast majority of these are inadequate and unbalanced. The recipes are either vague in instruction, contain errors or omissions in formulation, incorporate potentially problematic ingredients, or feature outdated strategies for addressing specific disease conditions. They may also lack specificity about the exact amount to feed a particular size of pet. If you wish to prepare your pet's food at home, consider getting a customized recipe and consultation with a board certified veterinary nutritionist.

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Are there foods that I shouldn't feed my pet?

There are many foods that should not be fed to pets because they are toxic or because they may cause other health problems. Examples include very high fat items such as chicken skin, grapes and raisins, bread dough, macadamia nuts, chocolate, garlic, onions, and foods artificially sweetened with xylitol. More information can be found here: <http://www.asPCA.org/pet-care/poison-control/>.

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Does my pet have a food allergy?

The term "food allergy" is used a lot these days. Figuring out if your pet has a food allergy can be complicated. First, let's define what an allergy is. Allergies occur when the immune system (the cells in our body that normally fight infections) overreacts to a foreign substance. The key point to remember is that the immune system plays an important role in allergies.

The next step is to understand the different types of food allergies in dogs and cats. Food allergies can affect mostly the skin, and this process is called "cutaneous adverse food reaction" or CAFR. CAFR will often show up as itchy skin, ear infections, skin infections, and itchiness around the anal area in dogs. Cats often have very itchy faces

and may have crusty, scaly skin. A very important point to remember is that environmental allergies to things like grass, dust mites, and pollen cause many of the same signs as CAFR. Flea allergies can also look very similar. If you suspect your dog or cat has CAFR, you should have your veterinarian examine them to help determine what is causing the itchiness.

Food allergies can also affect the gastrointestinal tract and often result in vomiting and diarrhea. Depending on the severity, this immune-mediated response may lead to inflammatory bowel disease (IBD). It can be very difficult to tell the difference between a food allergy and a food intolerance. A food intolerance doesn't have to involve the immune system and can occur to almost any ingredient in a food. A classic example of food intolerance in dogs and cats is lactose intolerance due to loss of the enzyme that breaks down lactose (i.e. sugars found in dairy products) with age. With food allergies, the immune system is activated by a protein it sees as foreign. Proteins are found in most food ingredients – whether it is a meat, grain, or other carbohydrate source. The most common food allergies in dogs are beef, chicken, and dairy. The most common food allergies in cats are beef, fish, and dairy.

Diagnosis of food allergies involves feeding a veterinary therapeutic or homemade diet for a period of time (typically 8 weeks) and watching to see if the signs improve. Then the pet must be re-challenged with the original diet that caused the clinical signs in order to confirm a diagnosis of food allergies. It is CRITICAL that your veterinarian be involved in the process of instituting a food allergy trial. The diets provided at your veterinarian's office undergo much higher quality control standards to eliminate contamination with other protein sources. In addition, your veterinarian can provide you with guidance on appropriate treats and unflavored medications for use during a food trial. Blood tests, hair tests, and saliva tests are not reliable for diagnosing food allergies.

Telling the difference between food intolerance, environmental allergies, and food allergies is challenging. Working with your veterinarian will assure your diagnosis and treatment plans are successful.

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Should I discuss the treats I give to my pets with my veterinarian? Can I cause any harm with treats?

When you as a pet owner visit your veterinarian, there should always be a discussion about what you are feeding your cat or dog. This involves information about not just the main diet and amount, but also any treats, table scraps, food for training, food for medication administration, dietary supplements, and any other food or treats. The reason for having a discussion with your vet is that some treats may not be appropriate for your pet. In addition to the potential that a treat contains a toxic food such as raisins, grapes, or certain artificial sweeteners, treats can be problematic in terms of the number of calories that they contain and in terms of the nutrients that they contain. If your pet is overweight, treat calories can contribute to weight gain. If a pet has a health condition such as urinary stones, gastrointestinal disease, food allergies, or chronic kidney disease, the nutrients and ingredients in treats can negatively impact the health of the animal. Raw meat-based treats may also cause additional issues, such as bacterial infections from contamination, or gastrointestinal obstruction or perforation from bones.

In addition, treats are frequently not complete and balanced. That means they may not contain the proper nutrients and/or may not contain nutrients in the proper proportions. Treat calories should make up no more than 10% of total daily calories to avoid unbalancing the diet as a whole.

Even if your pet is healthy, you should discuss treat options with your

vet to ensure that you help your pet stay as healthy as possible.

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How Do I Know if My Pet Is Overweight?

Overweight pets are at higher risk for medical problems like arthritis and don't live as long as their trim counterparts. How can you tell if your dog or cat is the perfect weight? Follow along with these steps:

Step 1: Do the Feel Test

You should always be able to easily feel your pet's ribs by gently running the flat of your palms across the sides of the chest (just behind the shoulders in the middle of the chest).

Step 2: Look for the Tuck

For short-haired animals, you should be able to see an 'abdominal tuck,' where there is no belly hanging down beyond your pet's rib cage when viewed from the side. They also have a "waist" behind their ribs when you look at them from above. This may be harder in long-haired animals, but it's easier to note when the coat is clipped or wet.

Another Trick: Compare to Your Hand

If you're still not sure, put your hand out with your palm down and fingers straight. Gently run your other hand over the back of your hand – this is exactly how padded your pet's ribcage should feel! Now, turn your hand over so your palm is up (with fingers still straight). Run your other hand over your palm. If your pet's ribs feel more like this, he or she is overweight!

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Why is the ingredient list not the way to evaluate a food for my dogs? Many websites rank the quality of pet foods based on the ingredient list but I have heard from my Veterinarian that this is not the best way to evaluate a pet food product.

We agree with your veterinarian. Rating pet food products does seem

to have become a favorite hobby for some lay people with web sites; however their rating systems are not based on any official independent body of experts with firsthand experience or knowledge, and so their scales are arbitrary and frankly illogical when based on the ingredients.

The World Small Animal Veterinary Association (WSAVA) has a [Nutrition Toolkit](#) which contains good recommendations for dog and cat owners titled 'Selecting the best Pet food'.

The ingredient list was not ever intended to be a tool by which to “evaluate” a pet food. Those items listed have an agreed upon definition set by an AAFCO subcommittee. The definitions can be found in the AAFCO manual published annually available to anyone after purchase although the manual is primarily directed at manufacturers in the feed and pet food industry. The ingredient list is a statement declaring the contents of the product, and the manufacturer must abide by the definition of each ingredient, e.g., the product cannot contain poultry if not listed and the product must contain taurine if it is listed. Every ingredient they add must be on the list; however, the list may not include everything in the product, i.e., food residue from previous product runs. The ingredient list was not intended to state or imply the nutritional adequacy of the final product for a dog or cat, and cannot be accurately used for that purpose.

A separate AAFCO Nutritional Adequacy statement required on the label was designed for veterinarians, nutritionists or pet owners to evaluate the nutritional or biological value to their patient or pet. Evaluating a pet food using the legal definitions of each ingredient is like using a wrench to remove a very small Philips-head screw from your watch so you can replace the battery.

The ingredient list, like the wrench, is simply not the correct tool to evaluate a pet food. Every ingredient, no matter how well defined, can and does vary widely in nutrient content depending a multitude of

uncontrollable factors, e.g., supply and demand, source, weather, season, region. The AAFCO definitions allow for this variation and are therefore not sufficiently accurate by which to 'rate' any one ingredient as a good source of nutrients for dogs, or a poor source for cats, etc. If the individual ingredients cannot be properly ranked, then the end product pet food cannot be 'ranked'.

It has been pointed out, "the total (pet food) is the sum of the parts (ingredients)"; however, these personal 'rating' systems of pet foods are based on only the first few listed. As is clear from reading any pet food label, the first few items are but a fraction of many (10-30) in the product. This is like deciding on whether to buy a certain car based solely on the tires who does that? Yes the list is in decreasing order by weight, but that includes the weight of water in the ingredient, i. e., wetter ingredients get listed first. A meat listed first may contain as much as 70% water which makes for an expensive can of water. This order by weight to the ingredient list does not accurately represent those less wet ingredients contributing more nutrients.

It is entirely the responsibility of the manufacturer to test each ingredient for nutrient value and known contaminants before receiving and using that ingredient in their pet food product. And because the nutrient profile is not stated or implied by the AAFCO ingredient definition, some manufacturers have specific details in their ingredient vendor contracts which may include not only the source, what can and cannot be in an ingredient but specify nutrient content of that ingredient as well. Additionally, some (not all) manufacturers double check the ingredient nutrient profile in their own food laboratories before incorporating that ingredient into their production line. They want to know the nutrient profile of their ingredients because that gives them much better control over the final nutrient content of their end product, e.g., a guaranteed nutritionally complete and balanced pet food. In summary, 'rating' a pet food for nutritional or biological value based on the first items in ingredient list on the label is not a valid tool for assessment. The

AAFCO nutritional adequacy statement on the label was designed for this purpose and WSAVA developed additional tools for pet owners.

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What is the history of the ACVN?

Members of the ACVN Organizing Committee

- Francis Kallfelz
- David Kronfeld
- Lon Lewis
- Ben Norman
- Howard Stowe
- Fred Troutt

The American College of Veterinary Nutrition (ACVN) was conceived in 1984, when the American Academy of Veterinary Nutrition (AAVN) voted to institute and financially support an organizing committee to develop a nutrition specialty board.

In the following 3 years, organizational meetings were held and supported by a restriction-free grant from Hills Pet Products.

The mission of the ACVN was to promote the importance of nutrition as an academic discipline in veterinary medicine including education, practice and research, thus improving veterinary services available to the public, and the health of animals, by the following means:

1. Assuring that experts in veterinary nutrition are highly qualified
2. Improving how graduate veterinarians practice nutrition, i.e. increasing the availability of continuing education in nutrition to veterinarians through presentations, publications, and newer forms of information technology
3. Improving the quality of nutrition education for veterinary students,

working with industry and academia to increase the number of faculty positions in veterinary nutrition in the United States and Canada

4. Improving the nutritional adequacy and safety of commercial foods/feeds
5. Providing accurate nutritional information to the public
6. Promoting and supporting research in veterinary nutrition for the benefit of animals and their owners

Charter Diplomates of the ACVN, 1987

- John Bauer
- Susan Donoghue
- Russell Frey
- Michael Hand
- Kenneth Hayes
- Mark Morris
- Johnathan Naylor
- William Olson
- Herbert Schyrver
- Kenneth Whitehair
- John Maas
- Robert Phillips

The AVMA granted provisional recognition and full recognition was granted in 1997 with 49 diplomates. The first annual meeting was held in 1988, attended by Bill Burkholder, Sarah Ralston, Claudia Kirk, Robert Dzanis, Craig Thatcher, William Swecker, Robert Kallfelz.

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Honorary Diplomate status has been awarded to Morris, Harold Hintz, James Morris, Quinton Constable, and Raymond Geor.



In the early 1980's, only five colleges had programs that could support post-graduate training in veterinary nutrition, and only 3 colleges would have board certified nutrition diplomates. By 1997, there were 12 U.S. veterinary colleges offering residency training in veterinary clinical nutrition.

Today, the ACVN is a small but growing specialty, with membership approaching 100 diplomates. The ACVN currently awards board certification in three focus areas – small animal nutrition, large animal nutrition, and comparative nutrition (mixed animal). Residency training is offered at several veterinary schools, and alternate residency training may also be approved.

The mission statement of the ACVN today is “The primary objective of the American College of Veterinary Nutrition is to advance the specialty area of veterinary nutrition and increase the competence of those who practice in this field by establishing requirements for certification in veterinary nutrition, encouraging continuing professional education, promoting research, and enhancing the dissemination of new knowledge of veterinary nutrition through didactic teaching and postgraduate programs.”

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Why are therapeutic pet foods so expensive?

There are many medical conditions for which dietary management is a key part of the treatment. Depending on the disease, certain nutrients may be restricted in comparison to the requirements for that nutrient in healthy pets, like the phosphorus levels in diets for kidney disease. For other conditions, nutrient levels could be enhanced, such as the higher levels of certain fiber types in diets for diabetes. Nutrient levels in these foods may be marginal in some way, often by approaching the bare minimum of that nutrient required by

the pet.

In both cases, it is critical that the pet owner is able to rely on the diet to consistently provide the amount of a key nutrient required by that pet, for that condition. Variations in nutrient levels are inherent in the raw materials or ingredients themselves, but variations are also introduced in the manufacturing process. These variations may be severe enough to lead to nutrient deficiencies, and even death, if uncorrected. Therapeutic diet manufacturers are made specifically for sick pets, and the manufacturers check specifications for the raw materials as well as for the finished product for *every batch* of food made.

A board certified veterinary nutritionist® is frequently asked for less expensive, over-the-counter (OTC) substitutes for therapeutic diets. Unfortunately, these diets cannot always be relied upon to feed pets with chronic or severe illnesses. While OTC diet manufacturers that do not produce therapeutic diets may produce quality products, their mandate is to feed healthy pets, and their quality control procedures are based on that assumption. Quality control procedures may vary from routinely checking macronutrient levels (protein, fat, fiber and water) or occasional complete nutrient analyses in finished diets to no post-processing quality checks at all. By contrast, the companies that make therapeutic diets test every batch of food made, from the therapeutic diets to their OTC diets for well pets.

In the case of hypoallergenic diets for pets with food allergies, prescription diet companies take special precautions to avoid contamination of these hypoallergenic diets with common proteins that could evoke allergic responses, using separate facilities or equipment than used for their other foods. OTC diet manufacturers may prepare the foods containing special proteins in the same equipment as their other foods, and it has been shown in multiple published studies that limited ingredient diets for OTC sale are often contaminated with proteins not listed on the label.

Finally, therapeutic diets are developed by nutritionists and scientists and undergo extensive testing to ensure that they do what they claim to do. On the other hand, some OTC diets are simply formulated to a recipe, manufactured, and sold, potentially without testing for efficacy or post-manufacturing quality testing.

Considering the extensive research, special manufacturing controls, quality testing and facilities used to ensure these diets are safe, the increased cost is understandable. If these foods are clearly best for sick pets, why limit their sale through veterinarians only, though? The answer is two-fold. First, these animals have chronic illnesses that require veterinary supervision to determine whether the therapeutic diet or other treatments continue to be appropriate for that pet. Secondly, some of these diets would not be considered complete and balanced by AAFCO standards, and so their sale *should* be restricted to trained professionals because they could actually lead to nutrient deficiencies in healthy animals.

While therapeutic diets are expensive, they should be considered as critical to your ill pet's health as the prescription drugs prescribed at the same time. It's a relief to be able to rely on consistent quality and safety from specialized pet food companies.

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What do pet food label terms such as natural, holistic, premium, and human grade mean?

Many of the terms used to describe pet foods on labels and in advertising materials are not legally defined. For example, there is no regulatory meaning for the terms "**holistic**," "**premium**," "**super-premium**," or "**gourmet**." Thus, a product described by these terms is not held up to any standard higher than would be required for any other pet food on the market, and should not be interpreted as meaning the product is necessarily of higher quality or greater

nutritional value.

The [Association of American Feed Control Officials](#) (AAFCO) has defined “**natural**” for purposes of pet food labeling. Briefly, a “natural” ingredient must be derived from plant or animal materials, or mined out of the ground in final form (for example, salt or calcium carbonate). Those materials can be further ground or otherwise physically altered, dried, cooked, extracted, purified, fermented, or treated with enzymes and still be considered “natural.” However, if production of the ingredient requires any chemical changes, if any synthetic chemicals are added to that ingredient, or if the ingredient is treated with radiation, they no longer meet the AAFCO definition.

For a finished pet food product to be “natural,” ALL ingredients must meet the AAFCO definition. The inclusion of an artificial preservative, color, or flavor, directly or by inclusion in another ingredient, would negate any use of the term. An exception is made to allow the use of chemically synthesized vitamins, minerals, or other trace nutrients (for example, taurine or amino acids) as may be needed to ensure the food to be nutritionally complete and balanced. In that case, however, a disclaimer must be made in association with the term “natural” to clarify that the product does contains small amounts of synthetic trace nutrients, for example, “natural with added vitamins and minerals.”

AAFCO also established guidelines in 2016 that allow for the use of “**human grade**” claims on pet food labels. Briefly, companies must provide documentation that EACH AND EVERY ingredient is in fact fit for human consumption. Further, it must be proven that the pet product is produced in a facility permitted to manufacture human food in accordance with the Food and Drug Administration’s Current Good Manufacturing Practices. So, claiming something like “made with human grade ingredients” may be false and misleading unless the product as a whole also complies with all human food production standards.

As the AAFCO “human grade” guideline is relatively new, only a handful of products have passed regulatory muster to date. This appears contrary to the wide array of “human grade” pet foods one may see in the marketplace today. Unfortunately, it is much more difficult for regulators to police web sites vs. product labels. Thus, any company that claims its products to be “human grade” on its website when such a claim does not appear on the label itself should be eyed with due suspicion as to the truthfulness of the claim. In general, raw pet foods can’t meet the AAFCO requirements for the claim. The labels of raw meat and poultry sold for human consumption must bear cooking directions to mitigate the risk of harmful bacteria, whereas raw pet foods are expressly intended to be fed uncooked.

“**Organic**” is very different from “natural.” Rather, it describes a method of production, where crops are grown without use of synthetic herbicides or fertilizers, and are not genetically engineered. Animals raised to provide organic meat, milk or eggs must be fed organically-grown feed, and cannot be treated with synthetic pesticides, antibiotics, or growth promotants. Companies that are accredited by the USDA (“certifying bodies”) inspect the facilities and records of the farmers and food companies to verify that they are following all the rules.

An “organic” food must contain at least 95% organic ingredients, while something “made with organic ___” must contain at least 70% organic ingredients. The remaining percentage must be comprised of ingredients expressly permitted by law. Any product containing less than 70% is not permitted to use the word “organic” on the label other than to describe the applicable ingredients in the ingredient list.

“Organic” product labels may bear a USDA Organic Seal. For either “organic” or “made with organic” products, the label **MUST** bear the name of the certifying body (for example, “Certified organic by ___”). If the label does not bear this information, it does not meet the “organic” standards, and any claims on the label suggesting

otherwise must be eyed with due scrutiny.

Unlike foods for human consumption and feeds intended for food-producing animals, there are no regulations in place for “organic” pet foods at this time. Until such regulations are in place, those for human foods are being applied to pet foods. If a pet food company’s web site claims the product or ingredients to be “organic” in some fashion, but that information does not appear on the label itself, the product is most likely not in compliance with the regulations.

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What determines protein quality?

Protein quality is determined by two things: amino acid composition and digestibility. Amino acids are the building blocks for proteins. The amino acid composition is important because a protein source should provide essential amino acids, which are amino acids that the body cannot make. There are ten essential amino acids for dogs and eleven for cats. There are also ten nonessential amino acids, which the body can make itself.

A protein can contain a high concentration of essential amino acids but have poor digestibility. Digestibility indicates that the protein can be digested, absorbed, and utilized by the body. If the body cannot use the amino acids in the protein, then it does not matter what the amino acid composition of the protein is.

A high quality protein has a high percentage of amino acids that are essential and good digestibility. However, protein quality is not determined by protein source. Plant proteins can be high quality, especially when combined with other types of proteins to get an ideal amino acid composition. In many cases, plant-based proteins such as wheat gluten are more highly digestible than animal-based proteins such as chicken.

Does my horse need nutritional supplements to balance the ration?

We are being bombarded by the marketing of supplements and understandably we are tempted to buy. There is apparently a supplement for everything and anything that ails your horse according to the ads. There are supplements for joints, intestinal tract, skin, poor performance, heaves, coughs, etc. The supplement market should carry a buyer beware sign because there is, in fact, very little, if any independent evidence of value for the vast majority of supplements on the market. On closer examination, very few products actually make a specific health claim because, if so, the FDA would be asking to review the evidence for the claim.

They may advertise for example: 'this product contains health promoting GI microflora' and in a different sentence state an 'unhealthy gut microflora can cause equine colic' and both statements are correct in and of themselves to some extent. But the product advertisement will not say: 'this product will prevent colic' because that is a health claim for which evidence must be available.

Nutritional supplements are not all that different from the other supplements on the market except in one regard..... there is independent evidence for some forms of nutrient supplementation. Independently, equine feeding studies conducted at universities and company research and development centers help paint a larger more accurate picture. The National Research Council (NRC) 2007 in a book titled [Nutrient Requirements of Horses](#) has compiled this data and has made daily nutrient recommendations horses of various size, body weights and age. When we compare the suggested daily nutrient intake data of horses to the average nutrient profile of forages (hay and pasture) and grains commonly fed to horses, we can

then see specific deficiencies and a specific need for nutritional supplementation.

There are 'complete' feeds available for horses which if fed in sufficient quantities will meet the recommended daily nutrient intake according to the NRC. As a more general rule, most horses are eating hay or pasture and receiving some incomplete grain mix and when the details of such a feeding program are examined, several nutritional deficiencies can be found. These feeding programs are most commonly deficient in trace minerals and/or vitamins, and in some cases specific amino acids. The first inclination would be to go buy and feed a generic 'equine vitamin mineral supplement' which on average, oddly enough, will rarely resolve the nutrient deficiencies in your specific feeding program because the forage is highly variable.

The Forage should be the Foundation of your Feeding program. So the best place to start when evaluating your horse's nutrition is with the forage. Forage analysis can be readily accomplished through most county agricultural services for little or no fee. Additionally, most county agricultural services, local or state agricultural colleges and some equine feed companies will help you then evaluate your entire ration and recommend specific supplementation to address the nutrient deficiencies in your horse's feeding program. Overall testing is less expensive than guessing which supplements to feed, ensures against overfeeding and provides a balanced nutrient profile to your horse.

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How do I know if my horse is a good body weight?

Body condition can be assessed by a body condition scoring (BCS) system. Using a scale of 1-9, a BCS of 1 means all ribs and boney structures are visible and the horse is severely emaciated while a body condition score of 9 means the horse is very obese with a square back,

brisket distended and heavy deposits of fat at the tailhead and under the abdomen. Ideally your horse should be a body condition score of 4-5, which means they would be thin with ribs easily visible (BCS 4/9) or the last few ribs visible (BCS 5/9) with good muscling. With a body condition score of 4 the backbone will also be visible.

Scales and weight tapes can also be used to assess weight and those weights compared to breed standards. To use a weight tape, measure the heart girth in inches (measure all the way around the horse just behind the elbows) and body length in inches. You can then plug these numbers in the equation:

$(\text{Heart girth})^2 \times \text{body length} = \text{body weight in pounds.}$

Assessing your horse's weight and body condition is a great way to see if your horse is a healthy weight and determine if you are feeding the right amount. Plus, it's fun!

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Are animal byproducts in pet foods bad?

Although this analogy has its own issues, let's pretend your dog is a wolf in the wild. Your big tough wolf has just captured a rabbit for dinner. What parts of that rabbit is he going to eat? Just the muscle tissue? Not likely. He's going to devour almost the entire rabbit, including organs and intestine (a. k. a. byproducts). In fact, these organs are where most of the body's valuable vitamins and minerals reside.

So what are animal byproducts? Basically, they are what remains after the intended product (human food) has been made and consist mostly of organs, blood, bone, and intestines. These are things that humans are less interested in eating, but this doesn't mean byproducts are unsafe or lack nutrition — they just aren't used for

human consumption. For example, most people aren't into eating cow spleen or lung, but that doesn't mean your dog wouldn't love or get lots of nutrients from eating these organs. Byproducts can also be good for the environment. If we demand our pets eat the same cuts of meats as humans, we are competing for valuable resources and the environmental costs of animal production are high. If we want to help the planet, we should try and use all parts of production animals.

You wouldn't expect an animal in the wild to leave behind nutritionally valuable animal tissue, so why would you insist that your dog or cat food company do the same?

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